



INCIDENT: OTCW Oil to Lake Michigan  
LOCATION: Whiting Refinery Lakefront, IN  
SUBJECT: Oiled Shoreline Assessment (SCAT) Report  
DATE: 27<sup>th</sup> March 2014

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**PLEASE NOTE SECTIONS REVISED FROM REPORT DATED 26<sup>TH</sup> ARE IN RED**

**SURVEY TEAM:**

<u>Name:</u>	<u>Organization:</u>
Ed Owens	BP-OCC
Stephane Grenon	BP-OCC
Jeremy Thomas	USCG
Parker Wood	USCG
Chris Payne	USCG
Beverly Kush	EPA
Verneta Simon	EPA
Sean Kane	EPA-START

**Geographic Area**(see attached map)

The shoreline had been divided into segments A through G based on physical shore-zone character. Segments D, E and F were surveyed on foot on the morning of 26<sup>th</sup> March 2014 **and the afternoon of 27<sup>th</sup> March (less Wood and Payne).**

**General Observations:**

- No oil was observed on the water surface from the shoreline.
- No sheens were generated when oiled materials were placed in the water and agitated.
- The observed oil was black and shiny.
- No pits were dug as there was no evidence to suggest burial by sand or penetration into the pebbles/cobbles as the sand was hard (frozen) and the pebbles/cobbles “cemented” by ice (pitting is planned for subsequent site surveys on warmer days).
- A boat survey was scheduled for the late afternoon of 26<sup>th</sup> March and the observations will be reported in the SCAT Report for 27<sup>th</sup> March.
- **The water line on the 27<sup>th</sup> was approx. 3-m lake-ward on the sand beach due to a lower water level (estimated 30-40 cm).**
- **A band of oil on Segment D previously under water was observed as documented below.**
- **Segment G was surveyed by boat on the 26<sup>th</sup>.**

**Oiling Observations:**

SUMMARY

SEGMENT	SHORE TYPE	OBSERVED OILING
D	Rip Rap	NOO except for one 1 m sq patch of 1-10% tar balls, average 1-3 cm size, < 1 cm thick <b>27<sup>th</sup> – oiled band on the length of the segment 0.1 to 1.5 m wide, CT and 10-15% distribution</b>



E	Sand, some shell hash	< 1% tar balls, average 0.5 to 1.0 cm size, < 1 cm thick 27 <sup>th</sup> – no change
F	Pebble-cobble (frozen)	1 tar ball per meter length, average 1-3 cm size, < 1 cm thick 26 <sup>th</sup> : section of oiled boom stranded on the shoreline that requires removal. 27 <sup>th</sup> : < 1% oil/pebble conglomerates typically 2-5 cm CT decreasing to north.
G	Rip Rap	26 <sup>th</sup> : NOO

#### SEGMENT D

- NOO (No Observed Oil) on the sheet metal or rip rap material adjacent to the outfall based on observations from the walkway above the outfall and from the adjacent scaffolding that crossed down to the water line. (Note: the rip rap materials are very light in color which facilitated observations had any black oil been present on the outer surfaces of the rip rap). This observation was confirmed by the afternoon boat survey (March 26<sup>th</sup>).
- An area approximately 1 m square of 1-10% distribution of tar balls was observed at the most southern end of the rip rap at the junction with the sand beach of Segment E. The oil was a semi solid, shiny black COVER/COAT of 1-3 cm size tar balls. (COVER = 0.1-1.0 cm thick: COAT = <0.1 cm thick).
- 27<sup>th</sup>: oiled band exposed by lower water level along the segment varied 0.1 to 1.5 m wide, CT and 10-15% distribution: one small patch of silver sheen observed otherwise oil appeared stable and unlikely to be remobilized (see attached photos)

#### SEGMENT E

- Surface oil was observed at less than a 1% distribution of tar balls, the majority of which were 0.5-1.0 cm diameter with a maximum of 5 cm size.
- Similar low concentrations were observed in two small areas (several meters long) of shell hash.
- Many “false positives” were observed that included coal, wood, shell and vegetation.
- The fine sand size and the hard, frozen nature of the beach would not have been conducive to penetration or burial. Future surveys will include pitting to determine any presence of subsurface oil.
- 27<sup>th</sup>: no change < 1%

#### SEGMENT F

- Surface oil tar balls were observed at a frequency of 1 per 1-m length (distribution <1%) on the pebble-cobble sediments. These tar balls were typically COAT thickness and in the 1-3 cm size range with an observed maximum of 10 cm.
- The pebble-cobble sediments were frozen with wave swash/spray so no penetration was likely.
- 26<sup>th</sup>: A section of 200' of oiled boom stranded on the shoreline was observed
- 27<sup>th</sup>: ground survey observed < 1% oil/pebble conglomerates typically 2-5 cm (one large 20cm size) typically CT, distribution decreased to north. Oiled boom was removed (see attached photos).

#### SEGMENT G

- 26<sup>th</sup>: NOO (No Observed Oil) on rip rap material. (Note: the rip rap materials are very light in color which facilitated observations had any black oil been present on the outer surfaces of the rip rap).



#### POTENTIAL SUNKEN OIL AREA

A darker area offshore was observed during the over flight of March 26<sup>th</sup>. The area was investigated by SCAT during the afternoon 26<sup>th</sup> boat survey with NOO: water sample collected and given to EU. Boat and wader lake bed survey scheduled for 28<sup>th</sup> as described in a separate “Sunken Survey Plan”.

#### Future Activities:

- In all three segments, monitor to ensure that no further “new” oil is stranded
- One boat survey scheduled for the late afternoon of 26<sup>th</sup> March to focus on (a) the rip rap sections of Segment D that cannot be reached safely by foot and (b) potential sunken oil in previously noted nearshore “dark” areas using an underwater real-time observation camera, a viewing tube and a pole for disturbance.
- Two, each morning and afternoon, foot surveys are planned with one SCAT team for Thursday (27<sup>th</sup>) and Friday (28<sup>th</sup>). Dig pits in Segment E to look for any subsurface oil.
- In particular, re-survey the accessible shoreline areas after the anticipated poor weather (winds) on Thursday 27<sup>th</sup> March.
- Prepare revisions and updates to this SCAT report as appropriate following each day of observations.
- Boat and wader lake bed survey scheduled for 28<sup>th</sup> as described in a separate “Sunken Survey Plan”.
- Resurvey of all segments scheduled for SUNDAY 30<sup>th</sup> and THURSDAY April 3<sup>rd</sup>.

#### Treatment Recommendations:

- Recommend the need for one small (approximately 5 person) shoreline cleanup crew.
- Recommended that the crew:
  - sweep the area within approximately 10 feet of the water line,
  - remove any oil larger than 1 inch that is accessible and that can be picked up by hand or with a shovel,
  - rake the two shell hash areas, spread out the shells, pick up oily clumps >1 inch size,
  - do not scrape oil from hard surfaces (rip rap material) or pebbles-cobbles,
  - swept twice each day, once early in the morning and once in late afternoon, and
  - beginning at the most easterly accessible point in Segment F and working towards the west to end at the rip rap in segment D.
- No vehicles or night lights are recommended for use in Segment E for shoreline cleanup.
- Avoid foot traffic and all vehicle traffic in the vegetated areas (even if the plants appear “dead”).
- Set aside the waste bags so that they can be inspected at the end of each day.
- Recommend no change to “sweep” cleanup with actions on FRIDAY 28<sup>th</sup> and SATURDAY 29<sup>th</sup>.
- Recommendations to be reviewed following a SATURDAY 29<sup>th</sup> site inspection and the SUNDAY 30<sup>th</sup> SCAT survey.



SEGMENT D







SEGMENT F

